ESCAPING ENVIRONMENTAL FEUDALISM

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I. INTRODUCTION

United States environmental policy is a modern-day form of feudalism, a system of land-use control that mixes the law of the manor with special interest group efforts to obtain legislative favors. The new feudalism is distinctly different from the old in its treatment of property rights; what appears to the reader of feudal history as a strict system of rights has deteriorated in modern times. Yet, in a feudal sense, federal legislation has nationalized the rights to use environmental assets and bestowed those rights upon the sovereign. Congress, like the lord of the manor, manages the property rights through a single agent, the Environmental Protection Agency, which has been hired for the purpose of developing administrative rules that embrace the goals of the manor lord.[1]

What can we say about the new environmental feudalism? Can we find an alternative path that leads beneficially to market solutions by examining the development of common-law rules and remedies as they emerged during the first feudal period? Does that examination tell us that private property rights tend always to be the exception, rather than the rule? If that is the case, what can we say about the future of free market environmentalism or, for that matter, free market anything?

This essay examines these questions by focusing on the Coase theorem, property rights to environmental assets, and transaction costs.[2] Part Two examines the Coasian argument

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1. *See* Reorg. Plan No. 3 of 1970, *reprinted in* 5 U.S.C. app. at 1343 (1988) (establishing EPA). *See generally* 1-2 DAVID HUME, THE HISTORY OF ENGLAND (Liberty Press 1983) (1778); SAMUEL E. THORNE, ESSAYS IN ENGLISH LEGAL HISTORY (1985) (describing feudal property rules).

2. *See* Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960); *see also* Harold Demsetz, *The Exchange and Enforcement of Property Rights*, 7 J.L. & ECON. 11 (1964). *See generally* Louis De Alessi, *The Economics of Property Rights: A Review of the Evidence*, 2 RES. IN L. & ECON. 1 (1980) (surveying literature pertaining to property rights in economic scholarship).

and the intellectual debate from which it arose. Common-law rules and transaction costs are central to the discussion, which includes a theoretical comparison of those costs under differing legal regimes. Part Three discusses the law of nuisance and early common-law remedies for environmental damage. Rooted in pre-feudal times, the common law has delivered rules and remedies to modern times. The somewhat confusing system of rules that deal with private and public nuisance form one focal point. Rules dealing with the management of commons form a second area of emphasis. Part Four discusses more recent transformations of the common-law rules in nuisance law. The last part of the essay discusses the result of this transformation—the modern version of environmental feudalism.

II. Coase, Transaction Costs, and Pollution Remedies

A. *Coase and Pigou: Common-law Versus Government Control*

According to Coase, when trade is facilitated, problems of evaluation and conservation are subsumed in a process bound by the terms of mutually beneficial contracts.[3] Putting transaction costs to one side, the Coasian argument states that rights to the environment can be assigned among competing parties so that mutually beneficial contracts can be executed. Assuming wealth or utility-maximizing behavior, gains from trade will lead to transactions that allocate environmental rights to the highest-valued use.

In later reflections on *The Problem of Social Cost*, Coase elaborates on the application of his ideas to environmental use and acknowledges with mixed emotions the attention his seminal article generated.[4] Admitting pleasure that his insights proved to be such a powerful intellectual stimulus, Coase points out regretfully that most analysts overlook the central point of his article. As Coase sees it, the challenge to be met in the real world has to do with informing the public of the relative merits of institutional choice. To him, the central problem is how things get done in a world with positive transaction costs,

3. *See* Coase, *supra* note 2, at 8. For a more extensive discussion of how the market process can resolve environmental problems, *see* Terry L. Anderson & Donald R. Leal, Free Market Environmentalism (1991).

4. *See* Ronald H. Coase, *Notes on the Problem of Social Cost*, *in* The Firm, The Market, and the Law 157 (1988).

which cannot conveniently be assumed away, not what might happen in an institutional vacuum where transaction costs are zero.[5]

A.C. Pigou's efforts to prescribe a solution to externalities such as environmental problems also stimulated attention to institutions and transaction costs. Disregarding institutional features of the marketplace, including more than a thousand years of common-law activity, Pigou called for collective solutions. His work suggested that the state tax polluters, so that their marginal private costs of production would reflect the marginal costs to society of their pollution.[6]

In response to Pigou, Coase focused on existing institutions and a pre-existing system of rules. His analysis concentrated on common-law remedies. Unlike Pigou, who fretted about market failures, Coase saw few problems of untreated social costs. Indeed, he saw the market process as the means to solutions.[7]

We might grant that Coase won the intellectual debate, but policy appears to be consistent with Pigou. Regulation of private decisionmakers, justified as a means of internalizing external costs, has expanded without limit. The definition and exchange of private property rights in the environment is a rare occurrence—it is the exception, not the rule.[8] In fact, Coase's argument extends beyond individuals' exchanges of rights to

5. *See id.* at 174-79; *see also* Coase, *supra* note 2, at 15-19.

6. *See* ARTHUR C. PIGOU, THE ECONOMICS OF WELFARE 172, 183-86 & nn.3,4 (photo. reprint, AMS Press 1978) (4th ed. 1932). Pigou's prescription deals with the orthodox problem where costs from private contracts fall on non-contracting parties. Accepting implicitly that the body politic acts to maximize common wealth, Pigou asks government to take action. Armed with perfect knowledge regarding the divergence between private and social costs, the legislature can impose taxes or subsidies to close the economic gaps that cause private decisionmakers to disregard the costs or benefits transmitted to their neighbors. *See generally id.* at 172-203.

7. *See* Coase, *supra* note 2, at 42-44.

8. Notwithstanding the passage of the Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990), which allowed air pollution rights to be traded among polluters, the model of environmental policy that the federal government follows remains overwhelmingly regulatory and redistributive. *See, e.g.*, 42 U.S.C.S. §§ 4321 *et seq.* (establishing national environmental policy), 4901 *et seq.* (controlling noise pollution), 6901 *et seq.* (regulating solid waste), 7401 *et seq.* (regulating air pollution) (Law. Co-op. 1989 & Supp. June 1991).

Although the instances where rights to pollute are defined and traded are few in number, they are nonetheless highly documented. *See, e.g.*, BUYING A BETTER ENVIRONMENT 163-248 (Erhard F. Joeres and Martin H. David eds., 1983) (discussing tradeable rights to water quality); THOMAS H. TIETENBERG, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS 333-428 (2d ed. 1988) (surveying programs for water and air pollution); BRUCE YANDLE, ENVIRONMENTAL POLICY: A PERSPECTIVE FOR THE NEXT DECADE (1988); BRUCE YANDLE, THE POLITICAL LIMITS OF ENVIRONMENTAL REGULATION (1989).

environmental use. Common-law liability, which can be traded using the vehicle of mutually agreeable contracts, and legal processes that provide damage payments can substitute for the actual trade of environmental rights in a world with positive transaction costs.

Today, the United States Congress can be described as following the Pigovian prescription. Pollution is generally viewed as a harmful externality. Emission should be cut, it is argued, sometimes without regard to cost. Command-and-control regulation dominates efforts to eliminate pollution. Such policy reflects a fundamental change in how property rights are viewed. One view of the change is that pollution had formerly been largely a private matter, but now has become a public matter of national import. This analysis implies that each and every citizen suffers and can demonstrate damages from the harmful effects of pollution. Another explanation for the change in the legal regime is that policymakers consider redistribution, the chief business of the state, to be far more valuable than efficiency.

B. *The Drift of Transaction Costs*

The evolutionary changes in environmental law have stretched, and in some cases fractured, the linkages that tie cost to action. In the case of public nuisances, in which a large number of individuals can claim damages from pollution, courts have tended to replace common-law remedies with statutory law. In the case of private nuisances, where a few well-identified individuals claim damages from pollution, a balancing of equities has replaced the common-law rule of strict liability. The legal ties to common-law rules are severed. As a result, transaction costs, now unfettered, have risen to new heights.

The analysis of transaction costs associated with environmental disputes generally assumes certain boundary conditions.[9] Under common law, when two parties are involved with

9. *See* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972). Calabresi and Melamed discuss transaction costs in the context of property rights disputes and rules of liability. Although they ignore those costs involving the legislative process, their approach provides a useful framework. By their logic, an effort to minimize transaction costs can cause a community to define inalienable property rights in some cases, liability rules in others, and property rules with injunctive remedies in still others. *Id.*

a strictly private problem, transaction costs are confined to those that the two parties generate through their efforts to resolve the problem. The transaction costs may relate to contract negotiations as the parties attempt to trade on the basis of the benefits and costs of the pollution. If they cannot agree, costs may rise if dispute settlement includes a referee process, such as litigation in a common-law court. Still, expected gains of the parties to the controversy bind total transaction costs. Each party confines his expenditure of resources to some estimate of expected gains or prevention of losses.

As the number of parties to the controversy expands, transaction costs also increase.[10] A common-law public nuisance action may involve hundreds of aggrieved parties who focus their concern on a single polluter. Transaction costs rise with the number of parties to the action as they seek to agree on an approach and a range of acceptable outcomes. The cost of enticing a public prosecutor to bring action is another transaction cost of public nuisance actions.

Large numbers cases can rise to the level of the legislature, where legislatures write statutes in response to community concerns. Again, the number of parties who must agree influences the transaction costs. Costs rise with the number of legislators and the number of citizens involved in the controversy. In the legislative process, which, unlike common-law remedies, will provide an all-or-nothing outcome that will bind all future transactions, special interest demands enter the picture. Lobbying and other rent-seeking costs appear, and these additional transaction costs must be considered.[11]

10. *See id.* at 1119; Coase, *supra* note 2, at 12.

11. Rent-seeking behavior occurs when groups use the political process to redistribute wealth in their favor. The common-law process has little room for such action, because common-law courts do not have jurisdiction over an entire economy and individuals can contract around common-law rules. *See generally* JAMES M. BUCHANAN ET AL., TOWARD A THEORY OF THE RENT-SEEKING SOCIETY (1980).

The analysis of legislative action presented in this section is static. Of course, because legislation is a dynamic process, legislative solutions are never truly permanent. This anomaly creates additional transaction costs in two ways. First, by encouraging additional rent-seekers to lobby for favorable changes and currently favored parties to protect legislative gains, lobbying costs increase. Second, the level of uncertainty for private parties increases, which creates information and risk management costs. Recognition of those costs tends only to reinforce my point that legislative solutions are more costly than common-law solutions; thus, they may be set aside for the present.

C. *A Theoretical Interpretation of Transaction Costs*

In a private nuisance dispute, transaction costs are minimized. A polluter and pollutee are easily identified when property rights are well-defined. A property rule requiring prior consent and voluntary exchange minimizes the transaction cost of gaining agreement about actions to secure land and environmental use. A liability rule that allows for recovery of damages has similar traits. In Figure 1, which records total transaction costs on the vertical axis and the percentage of the citizens in a community who might be parties to the controversy on the horizontal axis, let X(C) represent the lower transaction cost boundary.

The holdout problem occurs in pollution problems that involve a large number of damaged parties under either a property or a liability regime. Private negotiation is possible, but organizing costs, with weak incentives for each party to accept a final offer, extend and complicate the negotiation process. As Calabresi and Melamed explain, each receiver of waste has an opportunity to extract the maximum payment for settling the controversy.[12] The problem here is very similar to that discussed by Buchanan and Tullock in a political setting.[13] Each party wants to be the last to settle. In this situation, Calabresi and Melamed argue, a rule of negligence reduces transaction costs.[14] The function C(n) in Figure 1 represents this large numbers transaction cost, which rises with the number of parties to the controversy.[15] The function, which is drawn in linear form, is strictly illustrative. The magnitude of C(n) relative to private actions involving a few parties (X(C)) can be substantial, but it is generally agreed that this cost function increases with the share of the community involved in the problem.

If the number of parties encompasses the full community and the solution to the pollution problem rises to the level of writing statutes, the matter to be resolved can become public in the largest sense of the term. There are two components of trans-

12. *See* Calabresi & Melamed, *supra* note 9, at 42-43.

13. *See* JAMES M. BUCHANAN & GORDON TULLOCK, THE CALCULUS OF CONSENT 68-69 (1962).

14. *See* Calabresi & Melamed, *supra* note 9, at 43-44.

15. The parties also could organize a common-law public nuisance action. For the sake of brevity, only the private and political remedies are considered here. The analysis of the remedy for a public nuisance is similar to that of the political remedy, except that rent-seeking costs do not enter the process.

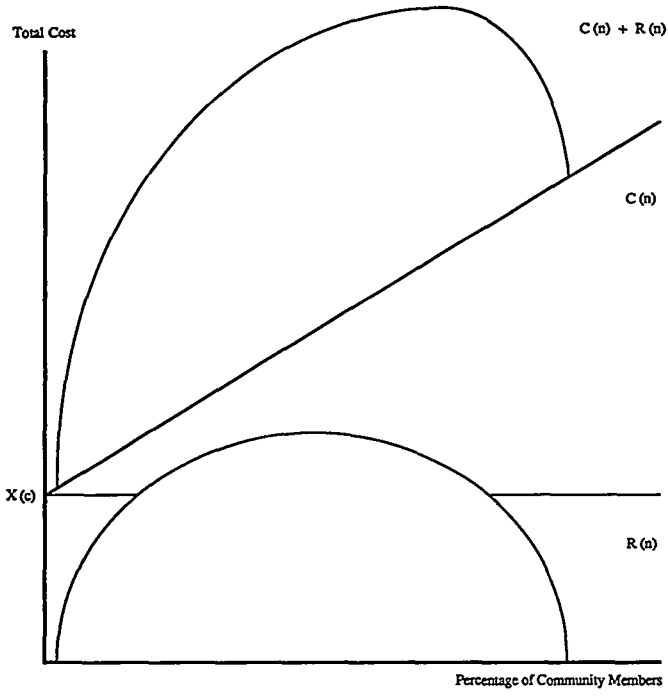

Figure 1: Analysis of Transaction Costs

action costs to consider here. C(n) can also represent the first, if we assume the previously described community is the state. C(n) in this case also proxies for the cost incurred in the legislative process when legislators seek to leap a voting-rule hurdle.[16] The voting rule determines the final cost of gaining agreement. Again, C(n) is purely representative of the general cost profile. As indicated in Figure 1, the agreement cost rises to the highest level when near unanimity is required.

The second element of legislative cost involves the lobbying struggle and the expenditure of resources in pursuit of distributional gains.[17] This cost rises and tends to peak at the midpoint of the decisionmaking group, where struggles tend to be most intense in a simple majority setting. For example, the de-

16. *Cf.* BUCHANAN & TULLOCK, *supra* note 13, at 205-07 (analyzing public choice).

17. *See* Gordon Tullock, *Problems of Majority Voting*, 67 J. POL. ECON. 571 (1959) (describing the lobbying component of costs); *see also* BUCHANAN & TULLOCK, *supra* note 13, *passim*. *See generally* GORDON TULLOCK, THE ECONOMICS OF SPECIAL PRIVILEGE AND RENT-SEEKING (1989); Zane A. Spindler, *Constitutional Design for a Rent-Seeking Society*, 1 CONST. POL. ECON. 73 (1990).

velopment of a statute for regulating air pollution may generate an intense struggle that tends to be balanced at the point of fifty percent plus one. The two opposing groups can each exhaust resources up to the sum of the gains that might come to the less-benefitted group from the legislation.[18] This cost is shown in Figure 1 as R(n), a function that has a zero value at each end of the group spectrum.[19]

The history of legal actions involving environmental disputes indicates a drift of private to public actions under common law and then a move to the legislature. Figure 1 allows us to consider the transaction cost implications of the movement. The cost elements illustrated there imply that private nuisance actions, represented by X(C), involving small numbers of individuals, are resource-conserving. Common-law public nuisance actions, represented by C(n), are also less resource-intensive than political actions, as rent-seeking costs, represented by R(n), are avoided. Statute-making, represented by C(n)+R(n), tends to be the highest cost alternative, because transaction costs involve at least two of the elements shown in Figure 1.

This analysis suggests that property or liability rules anchor transaction costs. When the number of individuals involved in a controversy expands, resource expenditures rise to the level indicated by the sum of C(n) and R(n). The stylized analysis shown in Figure 1 implies that a simple majority rule generates high transaction costs, but that those costs rise beyond the majority point, and then fall. A minority voting rule brings lower costs. However, a minority voting rule carries the risk of exploitation for citizens who will not be represented in the outcome.[20] Similarly, a super-majority voting rule carries lower transaction costs than a simple-majority rule, even in the face of rising agreement costs. Again, the stylized cost functions in Figure 1 make a simple point. Political solutions carry higher transaction costs than do common-law solutions.

It is possible that a statute is a substitute for thousands of common-law actions, which could imply that a statute reduces resource costs through a legal economy of scale. One must also

18. Such gains include the value of the losses prevented if the legislation is enacted.

19. Of course, one can logically picture a family of functions like R(n) with each such function having a different shape. Nevertheless, any such function is likely to have a bulge at the point where competing groups must struggle for a favorable outcome.

20. This point is the basis for a second element of decisionmaking costs, discussed in BUCHANAN & TULLOCK, *supra* note 13, at 63-66.

consider, however, the transaction costs associated with regulation and enforcement of the statute, as well as the fact that legislation is a continuous process. The conclusion in any given situation will require empirical analysis, but it still is probable that the transaction costs associated with private action are lower than those associated with public action.

III. The Law of Nuisance and Environmental Control

A. *Feudalism and Environmental Control*

Many features of modern government and legal systems are rooted in rules that evolved through the feudal system. Blackstone's observation still applies: "It is impossible to understand, with any degree of accuracy either the civil constitution of this kingdom, or the laws which regulate . . . landed property, without some general acquaintance with the nature and doctrine of feuds, or the feodal [sic] law . . . ."[21]

Under William of Normandy's system of martial law, England's land was distributed to William's knights, the lords of the manor. Only William held fee simple rights to the land. In effect, the lords held long-term leases, were free to manage the land as they saw fit, and could appropriate any resulting profits and rents. The peasants who worked the land were assigned designated plots, which they could not transfer. The tenancy system allowed peasants to support themselves and their families. A system of in-kind user fees provided revenues to the lord. In a strict sense, the villeins were share tenants in a system that reduced uncertainty for all parties to the system and maintained the fertility of the soil.[22]

Free market transfers of land, where unequal parties were equal before the law, came slowly.[23] Eventually, the feuds and guilds that regulated local markets gave way to open competition. Complete feudalism disappeared, but the rules of feudalism still tend to dominate some features of modern life, especially the management of land and environmental assets.

B. *The General Treatment of Nuisance*

Common-law treatment of nuisance, like modern discussions

21. 2 William Blackstone, Commentaries *44.
22. *See generally* Steven N.S. Cheung, The Theory of Share Tenancy (1969).
23. *See* Arthur R. Hogue, Origins of the Common Law 234-37 (1966).

of external effects, divided land-related environmental controversies into small and large numbers cases. Small numbers cases essentially involved a plaintiff and a defendant in a controversy over land use.[24] The parties to these private nuisance actions identified themselves, which reduced transaction costs at the outset. The certainty of common-law rules, as communicated through precedents, set another transaction cost anchor.

The logic of large numbers cases, which dealt with public and common nuisances, was not so straightforward. The simplest theme for these cases related to interferences with public access to improvements, such as highways and rivers, which were under the jurisdiction of the king. These were called "public nuisance."[25] In these cases, identification of plaintiffs and defendants came at low cost, but called for state action instead of individual action. Bound together for the purpose of providing shared services, the kingdom relied on the Crown, a residual claimant, to manage the shared facility. The king brought suit against the party imposing costs on the public.[26]

The more confusing element of large numbers nuisance cases involved those cases where a common nuisance affected enjoyment of the use of private land—an externalities problem, which can be usefully distinguished from a public nuisance. While a public nuisance arguably involves a public good or public trust responsibility, the private enjoyment case was clearly a private cost situation, usually associated with pollution. The private component of these large numbers cases was recognized by allowing individuals to bring separate actions when their damages were distinctly different in kind from those of the larger group. These cases, however, exhibited a real problem with transaction costs. A large number of affected parties had to organize. There was no existing public entity that coincided with the affected group that could contract with the polluter to resolve a common nuisance problem.[27]

Rights and liabilities existed in both the public and private

24. *See* William A. McRae, Jr., *The Development of Nuisance in the Early Common Law*, 1 U. FLA. L. REV. 27, 30-31 (1948).

25. *See* W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 86, at 618 (5th ed. 1984).

26. *See* McRae, *supra* note 24, at 36.

27. Although injured parties generally had no common private recourse to externalities, McRae identifies a writ of justicies, distinct from the private nuisance action, that may have allowed common action by private parties where "a considerable part of the public [was] prejudicially affected." *Id.* at 33.

settings. A right was assigned to downstream users, in the case of water pollution, and to homeowners and farmers, in other cases.[28] Polluters had no right to diminish the value of downstream property holders. Payment of damages was the standard remedy for private nuisance, while indictment or injunction was the remedy for public nuisance.[29]

C. *The Small Numbers Case and Market Forces*

Efficiency-enhancing devices filled common-law treatment of private nuisance. Property transfer rules protected subjective values.[30] Liability rules allowed for transfer through mutually beneficial contracts, which could be written to circumvent the common-law rule. A process that limited actions to parties to a controversy minimized transaction costs.

Blackstone illustrates the property rule and describes several examples of pollution, including one case that likely refers to sulfur dioxide emissions:

> If one erects a smelting house for lead so near the land of another, that the vapor and smoke kills his corn and grass, and damages his cattle therein, this is held to be a nusance. And by consequence it follows, that if one does any other act, in itself lawful, which yet being done in that place necessarily to the damage of another's property, it is a nusance: for it is incumbent on him to find some other place to do that act, where it will be less offensive.[31]

Blackstone's discussion was based on his survey of reports of actions at common law. His logic is seen in the well-known *William Aldred's Case*,[32] which had to do with a nuisance action that a homeowner brought against a pig farmer. Finding for the homeowner, the judge explained:

> [T]he building of a lime-kiln is good and profitable; but if it be built so near a house, so that none can dwell there, an action lies for it. So if a man has a watercourse running in a ditch from the river to his house, for his necessary use; if a glover sets up a lime-pit for calve skins and sheep skins so near the said watercourse that the corruption of the lime-pit

28. *See id.* at 37.

29. A writ that removed the source of damage could result from private action. Usually such a writ precluded recovery of damages. *See id.* at 33, 38-39.

30. *See* Louis De Alessi & Robert J. Staaf, *Subjective Value in Contract Law*, 145 J. INSTITUTIONAL & THEORETICAL ECON. 561 (1989).

31. 3 BLACKSTONE, *supra* note 21, at *217-18.

32. 77 Eng. Rep. 816 (1611).

> has corrupted it, for which cause his tenants leave the said house, an action on the case lies for it.[33]

That such a case emerged suggests that no private market remedy was forthcoming. The parties to this private nuisance case had already possessed the opportunity to negotiate their way to a solution. The plaintiff, the downstream user, presumably turned to the common law because the polluter could not have adequately compensated him. Put another way, the subjective cost to the downstream user of moving from the environs of the polluter was greater than the expected profit of the polluter. The common-law remedy merely served to ratify a contract between the damaged party and the community. Although the court acted to enforce rights without regard to cost or value, the polluter, demonstrating by his actions that he was the least cost avoider, was forced to pay damages.[34]

Both parties knew the common-law rule in disputes of this type. Clearly defined property rights and rules of liability that could be transferred by contract ensured that the party assigning highest value (subjective and objective) to the asset in question—in this case water use—would maintain possession.

Extending his discussion of this subject, Blackstone adds:

> [I]t is a nusance to stop or divert water that uses to run to another's meadow or mill; to corrupt or poison a watercourse, by erecting a dye-house or lime-pit for the use of trade, in the upper part of the stream; or in short to do any act therein, that in it's consequence must necessarily tend to the prejudice of one's neighbour.[35]

But there is more to the matter than simply being a good neighbor. The certainty of common-law rules provided a framework for contracting around the rules themselves. Individuals seeking to build a lime-pit knew the consequences of their actions. They could take steps to eliminate the nuisance, to buy out the downstream user, or to pay the downstream owner for the use of his rights.

The common-law process contained other efficiency-enhancing features that were rooted in the community. Jury trials resolved all nuisance actions, where the jury made a determination of the law and the facts. Of chief significance, a

33. *Id.* at 821.
34. *Id.* at 816.
35. 3 BLACKSTONE, *supra* note 21, at *218.

rule of unanimity governed jury decisions.[36] In addition, common-law courts at the community and county levels were organized around groups of Ten and Hundred households, and the members of the Tens and Hundreds had joint and several liability for actions taken by any member of the group.[37] Liability rules tied the jurors together; the liability rules were a sort of "veil of uncertainty" that caused each juror to assign some positive probability to incurring a cost when another person committed a crime.[38] The community liability system stimulated and supported community norms that reduced external costs. A unanimity rule and strict liability minimized risks of minority persecution and ill consideration of social costs.

D. *Public Nuisance and Lessons from the Commons*

Remedies for public nuisances stand in sharp contrast to the early institutions of common law that dealt with private nuisance. The shift from private to collective choice presents difficulties for holders of exclusive property rights. Unless the collective is organized so that a residual claimant can bring an action for damages, members of the group are forced to impose homogeneous solutions on heterogeneous interests. Such schemes require courts or legislatures to aggregate and evaluate preferences.[39]

A stretching of the linkage between the generator and the receiver of costs tends to occur when moving from the level of small to large numbers; but this relates more to the level of political decisionmaking and the loss of common social norms than to the fact of politics. If a community that defines the common-law court's jurisdiction responds to public goods problems, that is one thing. If the responding unit is the nation and there are thousands of communities with heterogeneous interests, that is something else. Agreement about public

36. The importance of Wicksellian unanimity to the process is a chief point that underlies much of Buchanan's work. *See* James M. Buchanan, *The Coase Theorem and the Theory of the State*, 13 NAT. RESOURCES J. 579 (1973).

37. *See* BRUCE L. BENSON, THE ENTERPRISE OF LAW: JUSTICE WITHOUT THE STATE 22-25 (1990); EDWARD COKE, 2 THE INSTITUTES OF THE LAW OF ENGLAND 70-73 (Wm. S. Hein Co. 1986) (1797); *see also* Bruce Yandle, *Organic Constitutions and The Common Law*, 2 CONST. POL. ECON. 225 (1991).

38. *See* GEOFFREY BRENNAN & JAMES M. BUCHANAN, THE REASON OF RULES 28-31 (1985) (discussing the "veil of uncertainty").

39. *See* Robert J. Staaf & Louis De Alessi, *The Common Law Process: Efficiency or Order*, 2 CONST. POL. ECON. 107 (1991).

goods, which and how much, becomes increasingly difficult as diversity enters the picture. Therefore, transaction costs rise.[40]

Once provided by community agreement, public goods are like a commons, a shared resource that can be maintained or abused. In that sense, the problem of public nuisance is partly a problem of the commons and how it is managed so as to maximize collective wealth.

Historical records provide early images of private management of what became common-access resources. For example, prior to the Magna Carta, private parties controlled certain aspects of the rivers and streams of England. The great charter opened the rivers to public access.[41] What might have been the subject of private nuisance actions became a matter of public nuisance and control.

Still, lessons from the law of the commons offer something worthy of consideration. Blackstone's discussion of the commons[42] leaves a very different impression from that which Garrett Hardin provides.[43] Unquestionably described by Blackstone as rights that a commoner could inherit, these access rights were limited as to time, space, and person, and were for designated resources that included pasture land, fisheries, forests, and game preserves.[44]

Stints, or access rights, set limits on the number of cattle a commoner could graze on a shared pasture.[45] The grazing brought mutually beneficial gains to tenants and to the lord of the manor. The tenants obtained feed for oxen used to plow the lord's land. Manure from the cattle fertilized the common pasture. As Blackstone put it:

> Commonable beasts are either beasts of the plough, or such as manure the ground. . . . For, when lords of the manors

40. *See supra* notes 12-20 and accompanying text (discussing increases in transaction costs associated with political decisionmaking).

41. *See* MAGNA CARTA paras. 23, 33, 47 (opening rivers to public); 2 BLACKSTONE, *supra* note 21, at *39-40 (discussing the elimination of the enclosures and the conversion of fisheries to commons); *see also* COKE, *supra* note 37, at 37-38 (indicating that the rivers "ought to be common to all").

42. *See* 2 BLACKSTONE, *supra* note 21, at *32-40.

43. *See* Garrett J. Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243 (1968).

44. *See* 1 J.H. THOMAS, SYSTEMATIC ARRANGEMENT OF LORD COKE'S FIRST INSTITUTE OF THE LAWS OF ENGLAND 181-88 (Wm. S. Hein Co. 1986) (1836) (discussing the practices and specialized courts that settled controversies).

45. *See* H. Scott Gordon, *The Economic Theory of a Common Property Resource: The Fishery*, *in* ECONOMICS OF THE ENVIRONMENT 130 (Robert Dorfman and Nancy S. Dorfman eds., 2d ed. 1977).

> granted out parcels of land to tenants, for services either done or to be done, these tenants could not plough or manure the land without beasts; these beasts could not be sustained without pasture; and pasture could not be had but in the lord's wastes, and on the uninclosed fallow grounds of themselves and the other tenants.[46]

To prevent a private "tragedy of the commons," restrictions were placed on the entry of goats and hogs, strangers' cattle, commoners' excess cattle, and the cattle of those who held no common rights. Under common law, the wrong was termed "disturbance of common" and "surcharging."[47] The penalty for excessive grazing was forfeiture of the extra cattle to the lord of the soil. Excessive use of the commons was also actionable under the law of trespass.

Since excessive use of the commons imposed costs on all users, both the lord and the legal commoners could bring actions for damages which unauthorized, as well as authorized, users imposed.[48] In a meaningful way, the law of the commons provided a solution to a true public nuisance problem. The lord of the soil was a residual claimant whose interests coincided with those of the holders of stints. Barring a natural disaster, there could be no "tragedy of the commons" on privately managed land. What might have been a public or common nuisance situation achieved a private setting.

Common rights were also extended to areas between towns that citizens could share.[49] In each case, a body of rules set limitations on use, and rights of access were annexed to the grant of land. Unlike the grazing commons, which had a lord of the soil with residual claims, there was no private owner of the underlying rights to the village commons. The rights were inalienable. The community had to determine rules for use. Abuses of those rules would therefore constitute public nuisances. Even so, small, homogeneous communities would run a smaller risk of excessive use than larger, heterogeneous ones when attempting to manage successfully a common-access resource. The fact that rights to the commons were annexed to the ownership of land in the communities provided residual claimants

46. *See* 2 BLACKSTONE, *supra* note 21, at *33.

47. *See* 3 *id.* at *237.

48. *See* 3 *id.* at *237-39.

49. *See* 2 *id.* at *33.

for shared use of the commons. These ownership rights provided at least some incentive to prevent a tragedy.

As in the case of liability by the Tens and Hundreds, the rule of private ownership rights residing in the community affected collective behavior. Public and private nuisance converged.

IV. The Modern Interpretation of Nuisance

A. *The Transition of Private to Public Nuisance*

The common-law treatment of nuisance continued to evolve on the way to the Twentieth Century. Working in competition with statutory law, and always inferior to it, the domain of common-law actions became constantly smaller.[50] In the transition, private nuisance took on the traits of common nuisance, which in turn blurred with public nuisance, and public nuisance became embodied in legislation. The reach of statutes was extended to what had been disputes between private parties. With few exceptions, judges' attempts to balance equities replaced the common-law rules of property and liability that had protected subjective evaluation and lent certainty to the exchange of land-use rights. Public recognition that property rights could be transferred politically or through community action, even in the absence of proving damages, caused private nuisance cases to take on public characteristics.

The transition of private to public nuisance may best be understood in the context of urbanization, with densely settled communities and increasing collocation of residential areas and industrial sites. In rural areas, the linkages between a polluter and an aggrieved party could be identified with greater clarity and without raising claims of damage from numerous parties in the neighborhood. The urban setting transformed private actions to public actions and seems to have compelled judges to consider the interests of the larger community. The case of *Pennsylvania Coal Co. v. Sanderson*[51] illustrates the transition. Mrs. Sanderson brought a nuisance action against Pennsylvania Coal Company, claiming that she was damaged by pollution discharged into a small tributary to the Lackawanna River that passed through her property. Had the court found for Mrs.

50. *See generally* Robert J. Staaf & Bruce Yandle, *Coase and the Calculus: A Comparison of Common and Statute Law*, *in* Economic Analysis of the Law: A Collection of Applications 254 (Wolfgang Weizel ed., 1991) (describing the competition).

51. 6 A. 453 (Pa. 1886).

Sanderson, the common-law rule of strict liability would have required the coal company to pay damages and perhaps to cease its offensive behavior.

The Pennsylvania Supreme Court chose instead to consider the benefits and costs of the coal-producing activity to the larger community. Justice Clark took a Coasian approach with the benefit of complete information about competing bids and opportunity costs:

> We do not say that a case may not arise in which a stream, from such pollution, may be regarded as a public nuisance, and that the public interests, as involved in the general health and well-being of the community, may not require the abatement of that nuisance. This is not such a case. It is shown that the community . . . is supplied with abundant pure water from other sources. There is no complaint as to any injurious effects from this water to the general health. The community does not complain on any ground. *The plaintiff's grievance is for a more personal inconvenience; and we are of opinion that mere private personal inconveniences, arising in this way and under such circumstances, must yield to the necessities of a great public industry, which, although in the hands of a private corporation, subserves a great public interest.* To encourage the development of the great natural resources of a country trifling inconveniences to particular persons must sometimes give way to the necessities of a great community.[52]

Acting as a legislative body, the court dismissed the subjective cost and strict liability rules of common law, redefining property rights in favor of the polluter. What was brought as a private action was viewed as public. In addition, the court mixed pecuniary externalities, the incomes and wages of workers in the community, with technological externalities, the pollution, when it weighed the equities. Had Mrs. Sanderson been able to sell her rights, or be compensated for their loss, there might have been gains from trade (or at least no losses) on that side of the transaction. Consumers of coal would have borne the cost of the action and workers would have moved to their next best alternative in the competitive market.

Coal production in Pennsylvania might have been set back for decades or changed substantially to protect property rights if Mrs. Sanderson had prevailed. However, the dismissal of subjective cost and strict liability may be seen as a setback of

52. *Id.* at 459 (emphasis added).

centuries of common law. Viewed in a more positive light, the common-law court struggled to adapt an ancient remedy to a modern setting.

B. *The Transition from Public to "Legislated" Action*

Although the *Sanderson* case began as a private action and ended with a public remedy, another case, *Versailles Borough v. Mckeesport Coal & Coke Co.*,[53] began as a public nuisance action. This was an air pollution case that related to a burning pile of refuse by-product from coal mining. The common-law remedy called for an injunction against the coal company, but the court viewed the matter differently. Even though the community brought the complaint, the judge weighed the equities, counted the costs associated with displaced workers, and decided for the coal company. Again, a court dismissed subjective costs:

> That the plaintiffs are subjected to annoyance, personal inconvenience and aesthetic damage by the burning of the gob pile, is not seriously disputed.
>
> . . . .
>
> . . . [W]e cannot believe that one's health would improve by living close to the gob fire, and we cannot believe . . . that there is no physical discomfort or annoyance caused to residents of that vicinity by the burning mountain. In fact, our decision in this case is not based on the assumption that the people living close to the gob fire suffer no annoyance, *but that the annoyance which is theirs is trivial in comparison to the positive harm and damage that would be done to the community, were the injunction asked for granted.* [54]

In making this decision, the judge effectively redefined the relevant group, which is to say he extended the parties to the controversy from the community to the state.

C. *The Common-law Remedy Resurfaces*

The fact that common-law remedies are limited to the case before the court is a great virtue in a heterogenous society. Unlike legislation, which applies to all and whose restrictions voluntary contracts among interested parties cannot alter,

53. 83 Pittsburgh Legal J. 379 (Pitt. Co. Ct. 1935). Using the common-law distinction developed *supra* at 525-27, the case should be considered a "common nuisance" rather than a "public nuisance" action.

54. *Id.* at 381-83 (emphasis added).

common-law outcomes vary from case to case. Because of the different positions taken in modern nuisance cases, commentators must address both balancing and strict liability approaches to pollution cases.

William H. Rodgers, Jr.'s treatment of the subject is typical. While offering a justification for balancing, Rodgers points out that "the rhetoric of the opposing schools of thought pits those opposed to extortion, on the one hand, and private confiscation on the other."[55] Rodgers traces the evolution of the opposing views and cites *Madison v. Ducktown Sulphur, Copper & Iron Co.*,[56] a leading case that is often discussed when balancing first surfaces in debate. *Ducktown* was a private action, but was decided in favor of the copper company on public interest grounds. As with its progeny, the court's decision rested largely on the asymmetry of property values involved: the copper company, which employed many people, was large, and the farm, which employed few, was small. Rodgers then cites *Hulbert v. California Portland Cement*[57] for the opposing view. In *Hulbert*, the court granted an injunction in spite of the costs imposed on the large cement operation.

Boomer v. Atlantic Cement Co.[58] is the modern case that seems to represent the viability of strict liability and the primacy of subjective cost. For that matter, the decision may also represent recognition of the legislature's role in matters that involve the taking of property. The facts involve a cement producer whose dirt, air emissions, and vibrations imposed costs on neighboring landowners. The landowners sought injunctive relief and damages. Again, the economic value of the cement mill far exceeded the value of the affected land. Balancing of objective costs would have led to a decision favoring the mill. However, the court ordered the company to face a shut-down injunction unless it paid permanent damages to the affected landowners. Put differently, the court forced the firm to engage in a transaction that recognized the property rights of the landowners. The old common-law rule of strict liability prevailed.[59]

55. *See* WILLIAM H. RODGERS, JR., HANDBOOK OF ENVIRONMENTAL LAW 118 (1977).

56. 83 S.W. 658 (Colo. 1904).

57. 118 P. 928 (Cal. 1911).

58. 257 N.E.2d 870 (N.Y. 1970). *See* RODGERS, *supra* note 55, at 118.

59. One criticism of *Boomer*, and cases like it, is that polluters can put themselves in position to force a sale, thereby assuming eminent domain powers. To make this argument, however, is to say that all tort actions are effectively eminent domain actions.

One last modern case deserves to be mentioned because of its Coasian properties. In *Spur Industries, Inc. v. Del E. Webb Development Co.*,[60] Webb's land development project expanded to the point that it encroached on Spur's feedlot operation, which had been in place long before Webb's project began. Webb complained on behalf of residents who had purchased homes in the project. The court recognized the "coming to the nuisance" argument, but noted that Spur's operation was both a public and private nuisance. In a somewhat novel decision, the court provided injunctive relief for Webb, but required Webb to pay Spur for the cost of moving or shutting down. In a Coasian sense, the court forced the parties to transact.

V. United States Environmental Feudalism: Some Final Thoughts

A. *Reducing the Domain of Common-law Remedies*

The nationalization of environmental assets that occurred in the U.S. during the late 1960s and early 1970s effectively reduced the centuries-old scope of action for common-law remedies. The environmental statutes and resulting regulations of this nationalization displaced common-law rules of private and public nuisance, which had formerly been the dominant basis for dealing with environmental problems.

The case law that formed the common-law remedies was rich in transactions, though transaction costs were arguably low. Because the common-law rules were well-established, voluntary contracts for regulating environmental use formed the routine approach and litigation was the exception. Today all polluters must have permits, must participate in regulatory proceedings, and then must still be subject to suits and litigation from an open-ended number of plaintiffs, including every level of government. By contrast, earlier polluters had to concern themselves only with two classes of potential litigants: landowners in the immediate vicinity of the pollution who could demonstrate damages (private nuisance) and the king or his designee, who might sue on behalf of the public at large (public nuisance).

60. 494 P.2d 700 (Ariz. 1972). *Spur* provides an example of an unusual remedy discussed in Calabresi & Melamed, *supra* note 9, at 31-48.

B. *Today's Environmental Manor*

While common-law contracts form the basis for an infinite number of market transactions that affect environmental use, the domain for settling disputes for most pollution actions has been sharply limited by statutory law.[61] The United States has returned to the law of the manor. In today's environmental manor, ordinary citizens, the villeins of the estate, are not allowed to own fee simple rights to environmental assets. They can hold limited rights to the specified use and possession of assets, but the rights cannot be traded, even within the fields of a particular villein. All exclusive rights belong to the lord of the manor, the state. Members of the manor community are also given specified rights to a defined commons that the lord sets aside. The use rights, though limited and therefore potentially valuable, are not transferable.

While most of the features of modern environmental control follow the outlines of feudal management, one major difference is notable. The feudal lord maximized the common wealth when he maximized his own wealth. There was little leeway for special interest groups to seek rents. No such claim can be made for Congress. While Congress is like the lord of the manor in that it cannot transfer rights in the environment to other lords, it is unlike the lord of the manor in that it has little incentive to maximize the common wealth. The residual income—profits and rents created by wise management of the manor—does not accrue directly to Congress, as it did to the lord. The problem for Congress is much more daunting, and the predicted solution far less noble. Members of Congress can gain more during their terms of office by creating rents for identifiable members of the manor than they can by taking actions that will maximize the common wealth in the long run, yet they are not penalized for this shortfall, as the lord and his heirs would have been. Therefore, the incentive structure for environmental management is biased toward centrally-controlled administration by Congress and the EPA, rather than toward defined property rights.

61. Almost all environmental legislation follows a feudal model of property rights. *See* sources cited *supra* note 8. *But see* Clean Air Act Amendments of 1990, 42 U.S.C.S. §§ 7651 (Law. Co-op. Supp. 1991) (allowing some trading of property rights in pollution).

C. *Some Final Thoughts*

Arguments calling for the definition and enforcement of tradeable property rights to environmental use—or for a rule of strict liability—are decidedly superficial unless they account for institutions and how they work. One gains little territory by simply appealing to the Coase Theorem and then calling for environmental problems to be left to the market. History tells us that common-law treatment of property rights can be as capricious as legislative action. In short, there is far more to the story than rights definition. Constrained community action lies at the heart of the problem.

Notions of property rights appear to have emerged in communities, not in the halls of government. Small groups of people seeking to survive and guard their accumulated wealth pledged to protect each other and devised ways to settle disputes. Property rights emerged, but they were not absolute. Yet they were relatively absolute. Strict liability was the rule.

Early common-law courts, organized at the community level, drew on the people of the community to settle disputes and determine remedies. Each community faced a resource constraint. There was no bail-out option.[62] Community norms and scarcity conditioned court actions. Competition among communities and mobility enabled individuals to sort themselves and their activities across regions. Community-based common law was so effective that even the tragedy of the commons was avoided. Again, the community was constrained. Property rights and the purposeful action of a residual claimant combined to yield a resource-conserving solution.

The breakdown of the unanimity rule, implicit in the community and explicit with juries, weakened the effectiveness of common-law remedies. Yet, so long as the lord of the manor or the king responded to wealth-maximizing motives and the property rights of ordinary people were enforced, an effectiveness constraint was still binding. Once a private nuisance action was transformed into a common or public nuisance, however, the rule of property and strict liability vanished. If redistribution

62. Buchanan makes this point in his discussion of actions taken with constrained regimes, such as under common law, and actions taken to change regimes. *See* JAMES M. BUCHANAN, *Constitutional Economics*, *in* EXPLORATIONS INTO CONSTITUTIONAL ECONOMICS 57-58; *see also* JAMES M. BUCHANAN, *Post-Reagan Political Economy*, *in* CONSTITUTIONAL ECONOMICS 1 (1991).

instead of property protection motivated the public prosecutor, the breakdown was final. Private property rights became a facade on an ornate political structure.

The United States version of nuisance law, which is portrayed as a struggle between balancing equities and enforcing strict liability, works in competition with legislative bodies that seek to capture additional territory for purposes of redistribution. As a result, common-law courts modify their actions and legislate. Fed by the gains from redistribution, statutory law expands and conditions the courts. Transaction costs rise in a world with fewer transactions. The nation is left with environmental feudalism, where a monopoly legislature sets rules to be followed throughout the kingdom. The domain for contractual solutions to environmental use is vanishing, even though market-like instruments emerge occasionally.

Where does modern feudalism lead us? Constrained communities seeking to conserve wealth are transformed into rent-seeking participants in a grand process that redistributes wealth by the periodic churning of property rights.